

Mr. Thomas Sugrue
Chief
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

*Re: Ex Parte Submission, In the Matter of the Year 2000
Biennial Regulatory Review - Amendment of Part 22 of the
Commission's Rules to Modify or Eliminate Outdated Rules
Affecting Cellular Radio Telephone Service and Other
Commercial Mobile Radio Services
WT Docket No. 01-108*

Dear Mr. Sugrue:

As set out in OnStar's earlier filings in this matter (July 2, 2001 and August 2, 2001), OnStar is an in-vehicle telecommunications system included as standard or optional equipment on models sold by General Motors and Acura (Honda) as well as Lexus (under the system name Lexus Link, Toyota). In April 2002 Audi (Volkswagon) will launch OnStar service beginning with its new A4.

The purpose of this OnStar filing is to update the data in the earlier filings to reflect the significant continued growth owing to vehicle sales in the last half of 2001 as well as the first part of 2002 and the consequent increase in subscribers and system utilization. In addition this filing discusses OnStar's digital rollout plan and concerns about assuring service to the owners of the legacy analog fleet once digital technology is rolled out.

At the end of February 2002, there were approximately 2.1 million OnStar subscribers. As noted in the earlier filing, OnStar's cornerstone service is automatic crash notification. At the end of February 2002, OnStar was receiving approximately 500 automatic airbag deployment or crash notifications per month. Our incident tracking indicates that in over 60% of these incident types, OnStar's call was the first call received by the PSAP.

As additionally noted in the earlier filing, OnStar's integration into the electrical architecture of the vehicle also creates the opportunity to deliver a variety of unique safety and security services including stolen vehicle location, remote door unlock and remote diagnostics in the event of vehicle problems including for example engine, transmission, antilock braking or airbag system problems. By the end of the 2001, OnStar was averaging in a month over 375 stolen vehicle location requests, 15,000 door unlock requests and 15,000 roadside assistance and remote diagnostics requests.

As also noted in OnStar's earlier filings, the delivery of these services is dependent upon the ability to transmit voice and data on the same call.¹ OnStar is actively working with suppliers to

¹ In that filing OnStar noted: "Importantly, for the cornerstone application of ACN and provision of emergency services, analog offers the ability to transmit data and voice on the same call. Once a voice channel connection is established, frequency-modulated data is transmitted on that channel to the call center. This data includes reason for the call (e.g. airbag deployment), location of the vehicle, vehicle identity and in the future will include crash impact data. The call is then switched to a voice mode and conversation between the call center and vehicle occupants takes place.

"The digital standards do not allow for this type of call – alternatives have been discussed yet the robustness analog offers is not available. Some of the data transports being discussed for an airbag deployment call include:

- A circuit-switched data call, followed by a tear down of the data call and the set up of a voice call;
- SMS data with a voice call; and
- Proprietary, non-standard based modulation schemes for sending data over the digital voice channel.

While all these types of calls may be possible, none are nearly as robust as the basic analog voice and data in the same call. OnStar recommends that a standard form of communication for voice and data be

engineer a robust digital solution to this requirement. Digital implementation in an embedded automotive environment requires a distinct development effort from a digital handset. For example, because emergency services are a cornerstone service, coverage and successful first time call placement reliability are critical factors. Thus, to maximize RF coverage, especially in rural areas, the system is being designed to utilize 3-watt analog and .6 watt digital power levels. In addition the automotive environment requires a more discriminating hands free processing system - also, call reliability algorithms to support emergency calls are more sophisticated. Further, as an embedded automotive system with emergency services capability the hardware must be validated to operate in the wide range of conditions experienced by a vehicle over its life. Considerations include temperature, humidity, dust and electromagnetic interference.

Assuming OnStar's suppliers are able to adhere to their technology development schedules, OnStar expects to begin phasing-in units with digital capability in the 2004 Model Year. Because OnStar is integrated into the electrical architecture of the vehicle, changes such as the transition to digital involve significant engineering modifications. Necessarily automotive manufacturers are not equipped to reengineer the electrical architecture of a large number of models in a single year. In addition, good technology risk management practice avoids implementing new technology across a large portion of a manufacturer's line-up in a single year - given the significant customer image and economic consequences of any recall - especially as affects safety oriented systems such as OnStar. Thus the expected phase-in for digital hardware

developed for emergency services within digital.” OnStar Comments, July 2, 2002, WT Docket No.01-108 at pp.5-6.

One integral part of this engineering problem is that OnStar's subscriber base is large enough to require multiple call centers. Necessarily, the voice part of the call and the data part of the call must be reliably matched to arrive at the same time (i.e. without latency) not only at the same advisor workstation but also at the same call center. Multiple call centers also provide redundancy in the event of an outage at one center.

is over a three model year time frame (2004,2005, 2006). OnStar expects the conversion to digital to be complete with the end of the 2006 model year².

If the Commission uses this proceeding to establish or propose a phase out for AMPS, OnStar urges the Commission take into account the consequences for the initial owners as well as the second and subsequent owners of the fleet of vehicles with installed analog systems. By the end of the 2006 Model Year, OnStar estimates the industry installed analog base is likely to be six to seven million vehicles. OnStar believes any Commission action establishing a phase out for the analog compatibility requirement should permit these consumers the maximum opportunity to secure the safety, security and other benefits from their investment before implementing regulatory changes that could potentially strand that investment. Existing embedded automotive systems are not susceptible to being easily replaced with digital technology and compatible antennas. With the ownership of a new vehicle averaging three to four years for lessees and five to six years for purchasers, the five-year time frame proposed by some commentators in this proceeding is insufficient to allow even the first owners of 2005 or 2006 model year vehicles with analog systems any substantial benefit from the safety and security features provided by their embedded telematics systems.³

OnStar believes that the Commission's compatibility rule continues to be necessary given the structure of the wireless industry. For example, OnStar has been unable to negotiate contracts with some carriers to provide analog service to OnStar and its customers on other than a roaming

² Typically, the last 2006 model year vehicles in dealer inventory would be expected to be sold by December 31, 2006. Model years generally run from October 1 of the prior year to September 30 of the year in question (e.g. The 2006 model year will run from October 1, 2005 to September 30, 2006).

basis. This has precluded OnStar from being able to offer the additional safety of its hands-free voice-activated calling service (OnStar Personal Calling) to subscribers living in the areas where those carriers hold both the A and B side 800 MHz licenses and includes some major metropolitan areas in Florida, Texas and Oklahoma.

OnStar believes the biennial review of the analog compatibility standard has raised important technological and policy issues involved in the transition to digital wireless communication. As explained in OnStar's comments, the transition involves development (which is underway) of new technology to support the capability of embedded telematics. OnStar continues to be concerned for reasons set out in its initial comments that it is premature to establish a sunset for the analog compatibility requirement⁴. Nevertheless, OnStar urges the Commission that if it decides to proceed with establishing a sunset date to look at least three to five years beyond the five year timeframe suggested by some comments and thereby take into consideration the automotive ownership cycles and product and life cycles of this demonstrated life saving technology.

Respectfully submitted,

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³Where General Motors offers OnStar as a unique option feature, the price is \$695. That price includes the first year of "Safe and Sound" service valued at \$200

⁴ OnStar notes that the Commission recently granted a requested waiver regarding analog antenna polarization standards to Cingular, which should relieve some of that carrier's concerns about capacity. See Order March 7, 2002 DA 02-558

March 29, 2002